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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,794	07/12/2000	Haldane S. Henry	SC11152ZP	2567

23330 7590 08/23/2002

MOTOROLA, INC.
CORPORATE LAW DEPARTMENT - #56-238
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PHOENIX, AZ 85018

EXAMINER

OWENS, DOUGLAS W

ART UNIT PAPER NUMBER

2811

DATE MAILED: 08/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/614,794

Applicant(s)

HENRY ET AL.

Examiner

Douglas W Owens

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-21 and 34 is/are pending in the application.
- 4a) Of the above claim(s) 22-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 14, 19-21 and 34 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the gap between a portion of the airbridge and the first electrically insulative layer, as required in claims 14 and 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
3. Claims 14-21 and 34 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose a semiconductor device, wherein a gap exists between a portion of the airbridge and a first electrically insulative layer, as required in claims 14 and 20.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-3, 5, 7, 8, 10 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Loboda.

Regarding claim 1, Loboda teaches an electronic component comprising:

a substrate;

an airbridge with a first layer (12) and a second layer (13);

wherein a portion of the second layer is over the first layer, wherein;

a gap (14) exists between a portion of the airbridge and the substrate;

a thickness of the second layer is less than a combined thickness of the first layer and the gap (Figs. 9 and 10)

the airbridge is conductive (Col. 2, lines 41-48 and Col. 4, lines 42-48); and

the first layer is less resistive than the second layer.

Regarding claim 2, Loboda teaches an electronic component, wherein the second layer is a passivation layer.

Regarding claim 3, Loboda teaches an electronic component, wherein the second layer is harder than the first layer.

Regarding claim 5, Loboda teaches an electronic component, wherein a gap exist between a portion of the airbridge and the substrate, and the thickness of the second layer is less than fifty percent of that of the first layer and the gap combined.

Regarding claim 7, Loboda teaches an electronic component, wherein the second layer is absent underneath a center portion of the airbridge.

Regarding claim 8, Loboda teaches an electronic component, wherein an unsealed gap exists underneath a portion of the airbridge.

Regarding claim 10, Loboda teaches an electronic component, wherein a third layer (10) is disposed beneath the first layer, wherein the third layer is less conductive than the first layer.

Regarding claim 13, Loboda teaches an electronic component, wherein the second layer of the airbridge is insulative.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Loboda.

Loboda does not teach an airbridge wherein the second layer has a compressive stress level of 0 to 200 MegaPascals. The stress level of the second layer would have been dependent upon the thickness. It would have been within ordinary skill in the art to arrive at the optimal thickness through routine experimentation.

Allowable Subject Matter

8. Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed June 17, 2002 have been fully considered but they are not persuasive.

The applicant argues that the drawings cannot be relied upon to demonstrate that the thickness of the second layer is less than a combined thickness of the first layer and the gap since Loboda does not state that the figures are drawn to scale. The description of the article pictured can be relied on, in combination with the drawings, for what they would reasonably teach one of ordinary skill in the art. Loboda explains that the second layer (the silicon carbide) is used as a protective coating, as opposed to a layer (Col. 4, lines 49-56). One having ordinary skill in the art would understand that a protective coating would imply a thin layer over or around another material or structure. It is confirmed in the drawings that the silicon carbide layer is meant to be very thin. Hence the combination of the article description and the drawings reasonably teaches

that the second layer is thinner than a combined thickness of the gap and first layer, since the second layer is clearly thinner than the first layer alone.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas W Owens whose telephone number is 703-308-6167. The examiner can normally be reached on Monday-Friday.

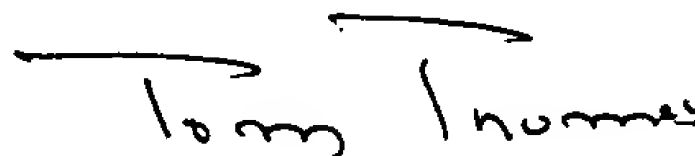
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 703-308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

DWO
August 20, 2002

A handwritten signature in black ink that reads "Tom Thomas". The signature is written in a cursive style with a horizontal line above the first name.

TOM THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800